

## NOTES ON TWO NEW ALOES AND ONE NEW VARIETY.

(With Plates IV—VI.)

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In a previous communication,<sup>1</sup> the writer described three new *Aloes* from the Transvaal. In the present paper, a new *Leptoaloe* from the Zoutpansberg, N. Transvaal, is described, together with a new *Leptoaloe* from Pondoland, and a new variety to *Aloe Broomii* Schönl., from Tarkastad, Cape Province.

**Aloe Vossii**, Reynolds. Species nova et distincta, in sectione *Leptoaloum*, *A. verecundae* Pole Evans affinis, sed foliis rosulatis, maculis subspinulescentibus differt.

*Herba* succulenta, acaulis, vel brevissime caulescens. *Folia* 14—20, multifaria, e basi 3 cm. lata sensim acuminata usque ad 50 cm. longa, carnosula, supra concava, viridia, subtus convexa, ubique, praesertim subtus, maculis cartilagineis prominulisque vel subspinulescentibus adspersa; ad margines linea cartilaginea tenuissima cincta, denticulisque parvis, 2—4 mm. distantibus ciliata. *Inflorescentia* simplex, usque ad 50 cm. longa. *Pedunculus* robustus, circiter 10 mm. diam., basi nudus, superne vacue bracteatus. *Racemus* capitatus, circiter 8 cm. longus, 7 cm. latus. *Pedicelli* 30 cm. longi. *Bractae* ovato-acutae, 16 mm. longae, 11 mm. latae, carnosulae, marginibus albis. *Perigonium* 28 mm. longum, cylindrico-trigonum, faucem versus levissime acuminatum, basi rotundum et breviter stipitatum. *Segmenta exteriora* libera, sub-obtusa; interiora libera, leviter carinata, marginibus pallidioribus. *Genitalia* demum 1 mm. exserta. *Ovarium* 6 mm. longum, medio 2.5 mm. diam. *Capsula* 18 mm. longa, 8—9 mm. diam., viridia.

*Hab*: N. Transvaal, Zoutpansberg, 5 miles north of Louis Trichardt on right-hand side of the road, Dr. F. van der Merwe, without number, March, 1935; cultivated plant, from "Schuyffontein," 5 miles north of Louis Trichardt, fl. 12th February, 1936, in Johannesburg, Reynolds 557! (type) in National Herbarium, Pretoria. (Plants 489/34 in National Botanic Gardens, Kirstenbosch.) (Plate IV.)

This distinctive *Leptoaloe* was collected in 1927 by Mr. Harold Voss, (after whom it is named), on slopes of the Zoutpansberg, about 5 miles

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<sup>1</sup> Vide Journ. of S.A. Bot., Vol. 2, p. 25, Jan., 1936.



FIG. 1.



FIG. 2.

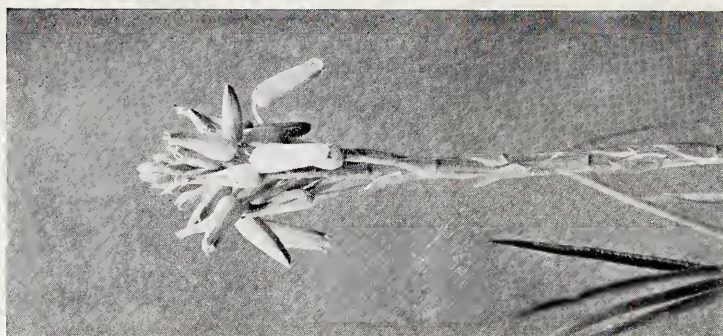


FIG. 3.

PLATE IV. *Aloe Vossii*, Reynolds.

FIG. 1. Plant collected by Mr. Harold Voss, 5 miles north of Louis Trichardt, Zoutpansberg, North Transvaal, flowering 12 Feb., 1936, in Johannesburg.

FIG. 2. Flowers 1/1, from the bud to the post-pollination stage.

FIG. 3. Raceme, with upper portion of the peduncle.

north of Louis Trichardt, North Transvaal, at an elevation of about 3,800 ft. It has been collected a few miles further east by Dr. E. E. Galpin and Mr. L. R. Vogts on the farm "Franshoek," and also by Dr. F. Z. van der Merwe in that neighbourhood; it appears to be restricted in its distribution to the Zoutpansberg, and usually flowers in February—March.

Its nearest ally seems to be *A. verecunda* Pole Evans, which it resembles in racemes and flowers,<sup>2</sup> but is immediately separated by its very different rosette, leaves and spots. *A. Vossii* is a larger plant with leaves multifarious, longer, broader, deeper green and much more copiously spotted on both surfaces; in *A. verecunda* the leaves are distichous, with the spots smaller and not spinulose. In *A. Vossii* the spots are longer and more narrowly elongate, frequently subtuberculate and with a short firm white spine. Another striking feature is the green, fleshy, white-bordered sterile bracts, the lowest sometimes reaching 12 cm. in length, with hard raised spinulose spots, and with their margins dentate. The perianth is less ventricose, more tapering from base to mouth, and more flame coloured.

In leaf, and especially in the sub-tubercular spinulose spots, it is near the Albany Division form of *A. micracantha* Haw., but the latter is readily distinguished by its larger differently shaped flowers.<sup>3</sup>

The species is described from plants which flowered in Johannesburg during February, 1935 and 1936, and which were originally collected by Mr. Harold Voss in the Zoutpansberg. As is the case with other *Lept aloes*, this species can be freely watered, and is one well worth cultivating.

*Description.*—*Herb* succulent, stemless or shortly caulescent. *Leaves* 14—20, multifarious, up to 3 cm. broad at base, gradually attenuate and up to 50 cm. long, rather fleshy; upper surface concave low down, more canaliculate upwards, the margins involute near apex, deep green, with several scattered elongate narrow white spots, the spots occasionally sub-tuberculate and spinulose; lower surface convex copiously spotted near base, gradually more distant upwards, the basal spots rounder, those above more elongate, the spots with a hard tubercular excrescence and frequently with a short firm pungent white spine: the margins with extremely narrow thin white cartilaginous edge, armed with firm white deltoid teeth up to 2 mm. long and 2—4 mm. distant low down, gradually smaller upwards, minute at apex, sometimes bifid. *Inflorescence* simple, up to 50 cm. long, usually a little shorter than the longest leaves, a second appearing after the first. *Peduncle* flattened

<sup>2</sup> *Vide* Trans. Roy. Soc. of S.A., vol. 5, Part 6, 1916, p. 704, Plate L.

<sup>3</sup> *Vide* Curtis, Bot. Mag. (1821), tab. 2272.



low down, terete above, 8—10 cm. diam. copiously sterile-bracteate from about the middle, the lowest sterile bracts up to 12 cm. long, 14 mm. broad, fleshy, leaf-like, sometimes with a few sub-tuberculate, subspinulose white spots and with margins dentate near apex; the sterile bracts gradually smaller upwards, sometimes sub-imbricate, those above up to 20 mm. long, 10 mm. broad, ovate-acute, amplexicaul, rather fleshy, green, the nerves not visible, the margins with distinct white border. *Raceme* capitate, about 8 cm. long, 7 cm. broad, very slightly conic, the buds densely congested and slightly shorter than their bracts, the open flowers laxer, cernuous, becoming erect after pollination, flame-scarlet, green tipped. *Pedicels* 30 mm. long, longer in the fruit, green. *Bracts* ovate-acute, 16 mm. long, 11 mm. broad, clasping the pedicels, rather fleshy, green, with white marginal edge. *Perianth* flame-scarlet, 28 mm. long, cylindric rather trigonous, 8—9 mm. diam. at base, slightly narrowing to the throat, the base rotund and shortly stipitate. *Outer segments* free to base, obscurely nerved, with sub-obtuse slightly spreading greenish apices. *Inner segments* free, narrower at base and broader near apex than the outer, with thin white margins and a slight keel pale orange for its greater length, greenish at apex, the apices more obtuse and slightly more spreading than the outer. *Filaments* flattened, the 3 inner narrower and lengthening in advance of the 3 outer. *Anthers* not, or very shortly (1 mm.) exerted. *Stigma* at length exerted 1 mm. *Ovary* 6 mm. long, 2.5 mm. diam., finely 6-grooved, green. *Capsule* 18 mm. long, 8—9 mm. diam., finely 6-grooved, green.

**Aloe agrophila**, Reynolds. Species nova et distincta in sectione *Leptoloum*, *A. Boylei* Bak. affinis, sed foliis angustioribus, dentibus minoribus remotis, et habitu florum differt.

Acaulis vel brevissime caulescens. *Folia* 10—15, multifaria, usque ad 40 cm. longa, e basi 4—6 cm. lata sensim acuminata, carnosula, tenuia, sub-erecta vel patula; supra sub-canaliculata, maculis parvis albis adspersa; subtus, rotundata, basin versus maculata, marginibus denticulis cartilagineis parvis remotisque ciliata. *Inflorescentia* simplex, 50—60 cm. longa. *Pedunculus* superne bracteae vacuis plurimis ovato-deltoides scariosis plurinervis praeditus. *Racemus* densus, capitatus, circiter 9 cm. longus et 10—11 cm. latus. *Pedicelli* 30—40 mm. longi. *Bracteae* ovato-acuminatae, sub-carnosulae, plurinerviae, 15—20 mm. longae. *Perigonium* 36 mm. longum, cylindraceum, rectum, faucem versus levissime ampliatus, basi breviter stipitatus; segmenta exteriora libera, obscure 3—5 nervata, sub-acuta; interiora libera, leviter carinata. *Genitalia* demum 1—2 mm. exserta. *Ovarium* 6 mm. longum, medio 2.5 mm. diam. *Capsula* 30 mm. longa, medio 12 mm. diam.

PLATE V.



*Aloe agrophila*, Reynolds. Flowers 1/1 from a plant flowering at Mlangana, 30 miles east of Umtata, Pondoland, Jan. 19, 1936; from the bud to post-pollination stage.



*Aloe Boylei*, Bak. Flowers 1/1, from a plant flowering 30 Dec., 1935, in the Biggarsberg, near Pomeroy, Natal; published for comparison with *A. agrophila*.

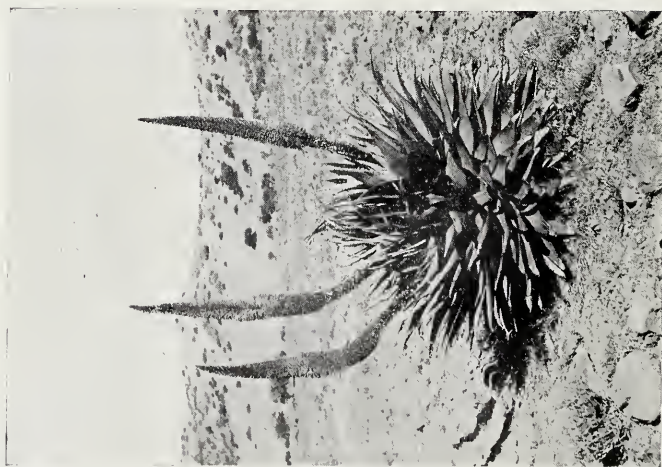


FIG. 1.



FIG. 2.

PLATE VI. *Aloe Broomii* Schönl. var. *tarkaensis* Reynolds.

FIG. 1. A flowering plant, 10 miles south of Tarkastad, 2 Feb., 1936, with two crowns.

FIG. 2. Flowers 1/1, from the bud to the post-pollination stage.

*Hab.*: Pondoland: grassy slopes of Mlengana, 30 miles east of Umtata on the road to Port St. Johns, fl. 19th January, 1936, Reynolds 1749! (type) in National Herbarium, Pretoria (Plants in Garden of Division of Botany, Pretoria, No. 934.1.36.) (Plate V.)

This attractive new species is related to *A. Boylei* Bak. in the section *Leptoaloe*. From a short distance, it could be mistaken for *A. Boylei*, which it closely resembles in general habit of growth, but in leaf, and floral characters there are many differences. The leaves of *A. agrophila* are usually longer and narrower, while the marginal teeth are smaller and more distant.

The principal distinguishing difference is the smaller very differently shaped flowers. In *A. Boylei* the perianth tapers to the mouth from a broad base (about 12 mm.) while the outer segment margins are rather involute, giving the flower a distinctly 3-grooved appearance. In *A. agrophila* the perianth is more cylindrical, only about 8 mm. broad at base, slightly enlarging towards the throat, and more roundly trigonous.

The only other species to be considered is *A. micracantha* Haw, but this differs with leaves much narrower and much more copiously spotted on both surfaces and with larger, broader flowers, slightly narrowed above the ovary.<sup>4</sup>

*A. agrophila* occurs in some numbers on the grassy slopes of Mlengana, 30 miles east of Umtata on the road to Port St. Johns, while the author has also collected it 7 miles further West near Libode, Pondoland, and near the foot of Ntywenka, 21·5 miles south-east of Maclear on the road to Tsolo, East Griqualand. It is a grass-loving species (which suggests the specific epithet), and is found on steep slopes or flatter country, usually in grass 1—2 ft. high. Owing to very inclement weather, it was not possible to photograph a flowering plant at Mlengana, but a photo of the flowers is herein reproduced, together with the flowers of *A. Boylei*, for comparison.

*Description*.—Stemless, or with very short stem. *Leaves* 10—15, multifarious, up to 40 cm. long, gradually attenuate from a 4—6 cm. broad base, green and somewhat fleshy, rather thin, suberect or slightly spreading; upper surface sub-canaliculate, with a few scattered, white, narrowly-elongated spots; lower surface convex, more copiously spotted near base; the margins with exceedingly narrow white cartilaginous edge, the teeth white, firm, 1—2 mm. long, and up to 5 mm. distant. *Inflorescence* 50—60 cm. long, 1—2 from a rosette. *Peduncle* slightly flattened low down, semiterete above, with several ovate-acuminate sub-amplexicaul thin scarious many-nerved sterile bracts in upper third. *Raceme* capitate, about 9 cm. long and 10—11 cm. broad, the buds erect,

<sup>4</sup> *Vile* Curtis, Bot. Mag., t. 2272.



the open flowers pendulous, pale coral-pink, green tipped. *Pedicels*, the lowest 30—40 mm. long, lengthening to 50 mm. in the fruit. *Bracts* ovate-acuminate, thin, subscarios, many nerved, about half as long as the pedicels. *Perianth* 36 mm. long, cylindric, about 7 mm. diam. at base and enlarging very slightly towards the mouth, the base tapering into the pedicel and slightly stipitate. *Outer segments* free, very obscurely 3—5-nerved, the nerves turning brownish-green at apex, the apices sub-acute, scarcely spreading. *Inner segments* free, not cohering dorsally to the outer, narrower at base and broader near apex than the outer, marked with a slight keel pinkish in lower portion turning green at apex, the apices straight. *Filaments* pale lemon, flattened, the 3 inner narrower and lengthening in advance of the 3 outer. *Anthers* very shortly (1—2 mm.) exserted. *Stigma* at length exserted 1—3 mm., and remaining exserted after pollination. *Ovary* oblong, 6 mm. long, 2.5 mm. diam. at the middle, finely 6-grooved, light green. *Capsule* oblong, green, 30 mm. long, 12 mm. diam. at middle, 6-grooved, enwrapped with the remains of the dry perianth.

**Aloe Broomii** Schonl., var. **tarkaensis**, Reynolds. Varietas nova et distincta, a forma typico foliis dentibusque majoribus, bracteis brevioribus exsiccatoribusque, floribus longioribus et praesertim bracteis nec dense imbricatus nec floribus et alabastris obtectis differt.

*Hab.* : Cape Province ; Tarkastad Division, 10 miles south of Tarkastad on the Bedford road, fl. 2nd February, 1936, Reynolds 1776 (type) in National Herbarium, Pretoria ; rocky slopes  $3\frac{1}{2}$  miles south-west of Tarkastad, fl. 2nd February, 1936, Reynolds 1777 in National Herbarium, Pretoria. (Plate VI.)

This very distinct variety differs from the typical in its more luxuriant growth, the rosettes sometimes reaching 3—4 feet in diameter ; the leaves are 2—3 times broader at base, often recurved, and more glossy reddish to brownish-green in colour, with the margins more strongly sinuate-dentate. The most striking character, and one by which the variety is immediately recognised, is the inflorescence.

In Schonland's typical form (which is described with "bracts nearly 3 cm. long, the perianth 2 cm. long")<sup>5</sup> the densely imbricate long fleshy pale green bracts completely obscure the shorter buds and flowers, giving the raceme a smooth appearance, with only the exserted portion of the genitals being visible.

In the var. *tarkaensis* the bracts are dry, brown, and considerably shorter, the individual buds and flowers being clearly visible. In structural characters of flowers it differs little, but the perianth is longer, often 30 mm., and more markedly stipitate at base.

<sup>5</sup> Rec. Albany Mus. II (1907), 137.



Another feature of the variety is that it flowers in February, while the typical form in the central and northern parts of the Cape, the southern Orange Free State and Basutoland, flowers in August—September.

The variety occurs in the most south-easterly station known for the species, and although also found near Cradock, appears to have its headquarters in the Tarkastad District, on which account the varietal epithet is proposed; it is described from personal observations near Tarkastad during January—February, 1935-36.

*Description.*—*Stem* usually simple, sometimes dividing at the summit into 2—3 crowns, short or up to 1 met. long, the old dry leaves persistent. *Leaves* densely rosulate (the rosette up to 1.3 met. in diameter), broadly ovate-lanceolate, attenuate in upper third, terminating with a pungent spine, with 5—15 cm. of the apex dry; upper surface flat near base, gradually more canaliculate upwards, lower surface flat or slightly convex low down, more convex upwards, sometimes carinate-dentate in upper third, with teeth 1—2 mm. long, 5—10 mm. distant; both surfaces somewhat glossy reddish to brownish-green in colour, obscurely lineate; the margins strongly sinuate-dentate, the horny edge reddish-brown, the teeth deltoid, with pale brown apices, smaller and more crowded near base, gradually larger and up to 10—15 mm. distant near apex, the interspaces rounded. *Inflorescence* simple or sometimes with 1—2 branches, 1—3 from a rosette, up to 1.5 met. in length. *Peduncle* semiterete above, flattened and up to 6 cm. diam. low down, copiously sterile bracteate, the bracts ovate-acuminate, spreading, thin scarious brown many-nerved, the lowest up to 40 mm. long, 20 mm. broad, smaller upwards. *Raceme* cylindric, slightly acuminate, up to 1.25 met. in length, 13 cm. diam., densely multi-flowered, the buds suberectly spreading, green, obscurely striped, sometimes with brownish apices, not obscured by their bracts. *Pedicels* 3—4 mm. long. *Bracts* long-ovate, up to 15 mm. long, 6 mm. broad, thin scarious brown many nerved, with obtuse cuspidate apices. *Perianth* 28—32 mm. long, cylindric, slightly curved, shortly stipitate at base, lemon in colour. *Outer segments* free, 5—7-nerved, the nerves pale green and converging to a brownish apex, the apices sub-acute, straight. *Inner segments* free, broader than the outer and with more obtuse apices, carinate with 3 congested nerves, the margins thin and white. *Filaments* sub-filiform, flattened, the 3 inner narrower and lengthening in advance of the 3 outer, the included portion yellow, the exerted part orange. *Anthers* exerted 7—15 mm. *Stigma* at length exerted up to 15 mm. and remaining exerted after pollination. *Ovary* 5 mm. long, 2.5 mm. diam. tapering into the style, finely 6-grooved, pale lemon in colour. The leaf sap dries deep brown.